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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/754,563 | 01/12/2004 | Yaw-Ming Tsai | LEE0030-US | 8217 |

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| EXAMINER | |
|---|---|
| NGUYEN, THANH NHAN P | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2871 | |

DATE MAILED: 06/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/754,563 | TSAI ET AL. | |
| | Examiner | Art Unit | |
| | (Nancy) Thanh-Nhan P. Nguyen | 2871 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *29 March 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-6,13 and 14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6,13 and 14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12 January 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *5/9/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

This communication is responsive to Amendment dated 3/29/2006.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

**Claims 1, 3 & 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ko U.S. Patent No. 6,570,631 in view of Mino et al (JP 10-104595).**

**Regarding claims 1, 3 & 4,** Ko discloses in figure 4C, a liquid crystal display of reduced reflection phenomenon, comprising:

- a first substrate (100)
- a switch (T), disposed on said first substrate, for controlling a brightness of said liquid crystal display
- a data line (115) having an extension to selectively form source (121)/drains (123) of said switch
- a first electrode (117) electrically connected to said data line
- an anti-reflection (134) layer of an anti-reflection material being disposed to contact data line

Ko lacks disclosure of the anti-reflection layer has a same pattern as data line for reducing reflection of said liquid crystal display.

Mino et al discloses the anti-reflection layer (10) has a same pattern as data line (5), [fig. 1e], for the benefit of reducing reflection of the data line in the liquid crystal device, [Abstract]. Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to have the anti-reflection layer has a same pattern as data line for the benefit of reducing reflection of the data line in the liquid crystal device.

Even though Ko does not disclose in figure 4C a second substrate; a second electrode disposed on said second substrate; and a liquid crystal layer disposed between said second electrode and said switch, it would have been obvious to one ordinary skill in the art to have these basic elements, [see fig. 1 in Ko reference], in order to complete a liquid crystal display device, and therefore these basic elements do not patentably distinguish the invention.

Similarly, Ko discloses in figure 1 the first electrode formed of Indium Tin Oxide (ITO), and the liquid crystal display comprising a color filter disposed between second substrate and the liquid crystal layer.

**Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ko in view of Mino et al as discussed above, and further in view of Huibers et al (US 2004/0100680).**

**Regarding claim 2,** even though Ko lacks disclosure of anti-reflection material is consisting of chromium oxide, it would have been obvious to one ordinary skill in the art to have anti-reflection material consisting of chromium oxide for the benefit of having low reflectivity to incident light as evidenced by Huibers, [see par. 0056]. Therefore, at

the time the invention was made, it would have been obvious to a person of ordinary skill in the art to have anti-reflection material consisting of chromium oxide for the benefit of having low reflectivity to incident light.

**Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ko in view of Mino et al as discussed above, and further in view of Ono et al (US 2005/0041182).**

**Regarding claim 5,** Ko lacks disclosure of a color filter disposed between the switch and said liquid crystal layer, and first electrode being disposed between color filter and the switch.

Ono et al discloses a color filter (FIL) disposed between the switch liquid crystal layer (LC), and first electrode (PX) being disposed between color filter and the switch, [see fig. 9], for the benefit of exhibiting high color purity and high brightness, [see par. 108]. Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to have a color filter disposed between the switch and said liquid crystal layer, and first electrode being disposed between color filter and the switch for the benefit of exhibiting high color purity and high brightness.

**Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ko in view of Mino et al as discussed above, and further in view of Zhong et al (US 6,707,067).**

**Regarding claim 6,** Ko lacks disclosure of a color filter disposed between said switch and said liquid crystal layer, and said first electrode being disposed between said color filter and said liquid crystal layer.

Zhong et al discloses a color filter (101-103) disposed between the switch and liquid crystal layer, and first electrode (3) being disposed between color filter and liquid crystal layer, [see fig. 6A-6C], where the color filters function as an insulating layer between the pixel electrodes and address lines in the areas of overlap for the benefit of reducing the line-pixel capacitance and being easier to manufacturing the device, [see abstract]. Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to have the color filter(s) disposed between the switch and liquid crystal layer, and first electrode being disposed between color filter and liquid crystal layer for the benefit of reducing the line-pixel capacitance and being easier to manufacturing the device.

**Claims 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ko in view of Mino et al, and further in view of Wu et al (US 5,773,848).**

**Regarding claim 13,** Ko lacks disclosure of a second anti-reflection layer being disposed to contact said gate line, wherein said second anti-reflection layer has a same pattern as said gate line for reducing reflection of said liquid crystal display.

Wu et al discloses an anti-reflection layer (31) of anti-reflection material being disposed on said gate line (29), wherein said second anti-reflection layer has a same pattern as said gate line, [see fig. 12, and claim 1], for the benefit of preventing any reflected laser energy from damaging the gate oxide layer (32), and thus avoiding the large gate leakage current, [see col. 5, lines 34-36]. Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to have an anti-reflection layer of anti-reflection material being disposed on said gate line for the

benefit of preventing any reflected laser energy from damaging the gate oxide layer and thus avoiding the large gate leakage current.

**Claim 14** is met the discussion regarding claims 13 and 2 as rejection above.

### *Response to Arguments*

Applicant's arguments, see Remarks, filed 3/29/2006, with respect to the rejection(s) of claim(s) 1 under 35 U.S.C. 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Mino et al (JP 10-104595).

### *Contact Information*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to (Nancy) Thanh-Nhan P. Nguyen whose telephone number is 571-272-1673. The examiner can normally be reached on Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on 571-272-1787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

(Nancy) Thanh-Nhan P Nguyen
Examiner
Art Unit 2871

TN

ANDREW SCHECHTER
PRIMARY EXAMINER